



**PATENT**  
Attorney Docket No. **MSU-10661**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Michael F. Thomashow *et al.*

Serial No.: 10/632,436

Group No.: 1638

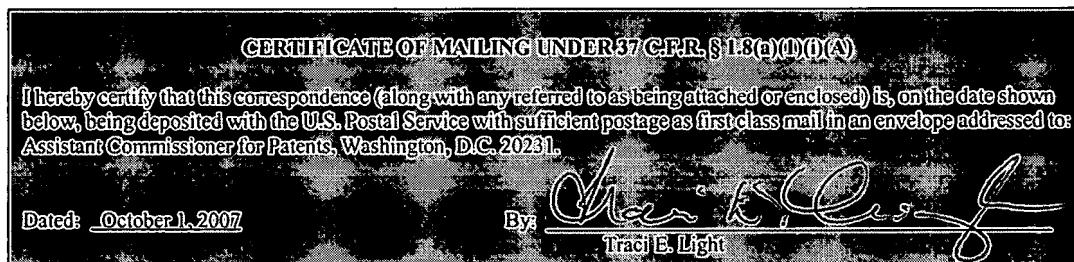
Filed: 08/01/2003

Examiner: Kumar, V.

Entitled: **Transcription Factors To Improve Plant Stress Factors**

**DECLARATION OF DR. MICHAEL THOMASHOW  
UNDER 37 CFR § 1.132**

Mail Stop –Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450



Examiner Kumar:

I, Michael Thomashow, Ph.D. under penalty of perjury, state that:

1. I am an inventor of the embodiments of the invention as claimed in the United States patent application captioned above.
2. I am considered an expert in the field of plant genetics, especially genetic regulation of plant responses to environmental stimuli.
3. I understand that the Examiner has questioned whether I discovered the RAV1 response to environmental stimuli before that disclosed in United States Patent Publication No. 2002/0160378 To Harper et al. filed on August 24, 2001.

4. I now provide a laboratory notebook page recorded before August 24, 2001 showing results from a microarray gene expression experiment following cold exposure. The RAV1 gene is listed (see the eighth entry from the bottom: circled) as a gene whose expression was modulated by cold exposure.
5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Dated: September 30, 2007



Dr. Michael Thomashow

Cold timecourse (FCs, nc=1)

Cluster #3 from 3x any cold FC(NC+1) cluster (CBF cluster)

PSN	Affy description
1..._st	AC00450 /FEATURE=mRNA-23 /GENE=F1482.23/
1..._s_st	AB008106 /mERF-4 mRNA for ethylene responsive element binding factor 4, complete cds.
1257_1_s_st	AF149413 /FEATURE=cds-9 /GENE=T1N24.17/ ferrocetatase-1
16425_st	M37247 /12S storage protein CRA1 gene, exons 1-4.
17900_s_st	AC000106 /FEATURE=cds-6 /GENE=F7G19.6/Similar to Glycine SRC2
19577_st	AC004512 /FEATURE=cds-18 /GENE=T8F5.18 /Contains similarity to TMV resistance protein N
16620_s_st	AF051338 /hylgucan endohexosylase related protein (TCH4) mRNA, complete cds.
14030_st	AC005970 /FEATURE=mRNA-14 /GENE=T6F5.14 /putative protein kinase
14529_st	AC004333 /FEATURE=cds-6 /GENE=T1F15.6/
18631_st	AC002510 /FEATURE=mRNA-16 /GENE=T32G6.16 /unknown protein
15482_st	AC003499 /FEATURE=mRNA-16 /GENE=T6A23.16/AC057354.1
18597_st	AL080282 /FEATURE=cds-2 /GENE=T13K14.20 /LABEL=/PRODUCT= betaine bridge enzyme-like protein
13115_st	AC000375 /FEATURE=cds-22 /GENE=F19K23.22 /no identity info given
13008_s_st	A71590 /Sequence 23 from Patent WO9813478 (antifungal proteins)/unknown protein
14016_s_st	A71596 /Sequence 29 from Patent WO9813478 (antifungal proteins)/unknown protein
14640_st	AC004697 /FEATURE=mRNA-16 /GENE= T16B24.16 /putative Mlo protein
14918_st	AC005223 /FEATURE=mRNA-22 /GENE=F22Z22.23/putative alanine acetyl transferase
15613_s_st	MS0334 /homeobox protein (HAT4) mRNA, complete cds.
14554_st	AC003671 /FEATURE=cds-4 /GENE=F17O7.4/no identity info
16565_st	AF155817 /zinc finger protein OBP4 mRNA, complete cds.
18885_st	AC006921 /FEATURE=mRNA-16 /GENE=F2H17.17/unknown protein
16753_st	AL031002 /FEATURE=cds-11 /GENE=F17I5.110 /LABEL=/PRODUCT= putative protein
17047_st	AF078825 /RING-H2 finger protein RHA3b mRNA, complete cds.
19865_st	AC007260 /FEATURE=cds-7 /GENE=T30F21.7 /Highly similar to rice zinc finger protein
19489_s_st	AC007020 /FEATURE=mRNA-11 /GENE=T3G21.11 /AP2 domain transcription factor
13049_s_st	AF033206 /FEATURE=cds /GENE=/LABEL=/PRODUCT= putative peptidyl methylesterase
13049_s_st	AF117053 /putative inositol polyphosphate 5-phosphatase A5P2 mRNA, complete cds.
15124_s_st	US65608 /osmotic stress-induced proline dehydrogenase (pro1) mRNA, complete cds.
13617_st	AC006592 /FEATURE=mRNA-8 /GENE=F14M13.10 /putative mitochondrial dicarboxylate carrier protein
18022_st	AJ011625 /equine serum prostanter binding protein-like 2.
16111_1_st	AB007788 /DREB1B, complete cds.
16898_s_st	AC005662 /FEATURE=mRNA-18 /GENE=F13H10.19/late embryogenesis abundant (LEA) M17 protein
16062_s_st	AB007789 /DREB1C, complete cds.
19538_st	D38109 /kinin phosphatase 2C.
16510_s_st	AB000490 /ABR7 mRNA for response regulator 7, complete cds.
15392_st	AC005623 /FEATURE=mRNA-13 /GENE=T20P8.13/unknown protein
20455_st	AL035394 /FEATURE=cds-22 /GENE=F8D16.220 /LABEL=/PRODUCT= putative Ap2 domain protein
20686_st	Y14424 /hypothetical protein SEB2, partial.
17520_s_st	AB007787 /DREB1A, complete cds.
16575_s_st	L40954 /oleosin mRNA, complete cds.
18949_st	Z54136 /MYB-related protein (1195 bp).
19707_s_st	Z95768 /AUYNY244 R2R3-MYB transcription factor.
15663_s_st	AB013886 /RAV1, complete cds.
18012_s_st	AJ002286 /inositol 1,4,5-triphosphate 5-phosphatase.
17933_st	AC00450 /FEATURE=mRNA-17 /GENE=F1482.17/putative protein kinase
16570_s_st	D21805 /calcium-dependent protein kinase (CDPK), complete cds.
14367_st	AC004473 /FEATURE=cds-8 /GENE=T13D8.8 /Contains similarity to zinc-binding protein
15202_st	AC003680 /FEATURE=mRNA-21 /GENE=F17C22.1 /Putative PCF2-like DNA-binding protein
20421_st	U81294 /germin-like protein (GLP9) mRNA, partial cds.
15545_st	AC002131 /FEATURE=cds-17 /GENE=F12F1.17/hypothetical protein